

ABSTRACT OF THE DISCLOSURE

An asynchronous metropolitan packet transport ring having guaranteed QoS. Asynchronous packetized data flow in one direction through a fiber optic loop. A number of Metropolitan Packet Switches (MPS) are coupled to the fiber optic loop. An MPS allows packetized data from an upstream MPS to flow to a downstream MPS over a segment of the fiber optic loop. The MPS also puts packetized data onto and pulls packetized data off of the fiber optic loop. Thereby, flows can access the fiber optic loop via the MPS's. The MPS's also regulate the data rates on a per-flow basis according to setup information supplied by a Ring Management System (RMS). If one segment of the fiber loop becomes overly congested, the MPS guarantees quality of service for those flows by deallocating available bandwidth from flows upstream to the point of congestion. Utilization of packet transport ring capacity is optimized by allocating any bandwidth that becomes available to active flows according to a pre-specified weighting scheme.